



NASA 3rd Integrated CNS Technologies Conference & Workshop

Air Transport Association

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Who is ATA

- ATA - trade association for the major U.S. airlines since 1936
- 22 member and 5 associate member (non-U.S.) airlines
- Airlines are end-users of your research
- Airlines business is fluid and rapidly changing typically focusing on next 2-5 years



Navigation

- Must reinforce GPS/GNSS (global navigation satellite service) as a viable means of air navigation
- Satellite navigation is key to airspace re-design - movement of ground-based nav aids not feasible
- Need more GEOs for WAAS



Navigation

- Need LAAS/GBAS Category II/III approach minimums capability
- Need flight procedures for LAAS that will provide aircraft operator benefits (more than just straight-in ILS)
- Adopt performance-based navigation standards (RNP)



Surveillance

- ADS-B (Automatic Dependent Surveillance Broadcast) is the way forward.
- Capstone in Alaska
- Gulf of Mexico
- FedEx starting to equip aircraft
- UPS equipping 107 aircraft this year
- Embry Riddle Aeronautical University equipping 110 aircraft



Global Harmonization

- Too expensive to not harmonize, both for ATC & for operators
- Examples of problems for operators
 - 8.33 vs. 25 KHz
 - 8.33 vs. VDL Mode 3
 - VDL2 vs. VDL3 vs. VDL4
- The aircraft is where the compatibility match-up must work
- Must not have uncoordinated regional solutions for global issues



Communication

- Focus should be on communications
 - Spectrum has finite supply (VHF)
 - Strong competition for traditional aviation spectrum from non-traditional users
 - Aviation must use “pure” spectrum for safety-of-life services (including for ATC)
 - WRC-03 (World Radio Communications Conf.)



Communications

- What is next for air-ground ATC communications in the U.S?
 - 25 KHz spacing?
 - 8.33 KHz spacing?
 - VDL Mode 3?
 - Wideband?
 - Something else?



Communications

- Is there anyone that does not believe that we need controller-pilot data link communications (CPDLC) for ATC?
- CPDLC reduces workload for pilots and controllers
- CPDLC improves controller-pilot communication
- Must expand CPDLC beyond Miami ARTCC quickly



Summary

- Focus on communications
- Expand data Link – CPDLC
- Ops Concept with procedures & commitment to implement
- FAA/NASA Joint Program Office for R&D
- Global Interoperability



Questions ???

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